

INDEX TO VOL. XVII.

- ADRENALIN**, influence on glycosuria and nitrogenous metabolism, 42.
 Alcohol affects secretion of bile, 408.
 Amido acids in blood and lymph, 273.
 Atropin, physiological action, 143.
AUER, J. See **MELTZER** and **AUER**, 143, 313.
AUER, J. The effect of subcutaneous and intravenous injections of some saline purgatives upon intestinal peristalsis and purgation, 15.
- BILE**, secretion affected by alcohol, 408.
 Biliary fistula, 362.
 Blood, amido acids, 273.
 —, non-coagulable proteid, 280.
 — salts, rate of diffusion, 35.
 Bone, composition in osteomalacia, 32.
BRADLEY, H. C. See **MENDEL** and **BRADLEY**, 167.
BROOKS, C. On conduction and contraction in skeletal muscle in water rigor, 218.
- CANNON, W. B.** The motor activities of the stomach and small intestine after splanchnic and vagus section, 429.
CARLSON, A. J. On the action of chloral hydrate on the heart with reference to the so-called physiological properties of heart muscle, 1.
CARLSON, A. J. On the point of action of drugs on the heart with special reference to the heart of *Limulus*, 177.
CARLSON, A. J. The relation of the normal heart rhythm to the artificial rhythm produced by sodium chloride, 478.
 Castration, effect on metabolism in osteomalacia, 211.
- Cerebral activity under artificial circulation, 344.
 Chyle, 487.
 Ciliated epithelium, action of ions upon, 89.
 Circulation, artificial, through cerebrum, 344.
CLAPP, S. H. See **OSBORNE** and **CLAPP**, 231.
CLOSSON, O. E. See **UNDERHILL** and **CLOSSON**, 42.
 Contractility, affected by ions, 89.
 Culture media, 443.
- DENIS, W.** The rate of diffusion of the inorganic salts of the blood into solutions of non-electrolytes, and its bearing on the theories of the immediate stimulus to the heart rhythm, 35.
 Digestion, salivary, 26.
- EARTHWORMS**, reactions to salts, 55.
 Ergot, action on stomach and intestines, 143.
- GLYCOSURIA** from adrenalin, 42.
GUTHRIE, C. C., F. H. PIKE, and G. N. STEWART. The maintenance of cerebral activity in mammals by artificial circulation, 344.
- HADLEY, P. B.** The relation of optical stimuli to rheotaxis in the American lobster, *Homarus Americanus*, 326.
HARRIS, I. F. See **OSBORNE** and **HARRIS**, 223.
 Heart, action of drugs upon, 177.
 —, muscle, 1.
 —, rate influenced by temperature, 359.
 —, rhythm, 478.
 —, stimulated by diffusing salts, 35.

- HEMMETER, J. C. An improved operative method of forming an accessory (Pawlow) stomach in the dog, 321.
- HOWELL, W. H. Note upon the presence of amido acids in the blood and lymph as determined by the β naphthalinsulphochloride reaction, 273.
- HOWELL, W. H. The proteids of the blood with especial reference to the existence of a non-coagulable proteid, 280.
- INTESTINE, motor activities of, 429.
- LILLIE, R. S. The relation of ions to contractile processes. — I. The action of salt solutions on the ciliated epithelium of *Mytilus edulis*, 89.
- Lobster, rheotaxis in, 326.
- LUCAS, D. R. Studies of the peristalsis of the ureter of dogs by the graphic method, 392.
- Lymph, amido acids, 273.
- MCCRUDDEN, F. H. The composition of bone in osteomalacia, 32.
- MCCRUDDEN, F. H. The effect of castration on the metabolism in osteomalacia, 211.
- Magnesium salts, physiological action, 313.
- MEEK, W. J. The influence of osmotic pressure on the irritability of skeletal muscle, 8.
- MELTZER, S. J., and J. AUER. Physiological and pharmacological studies of magnesium salts. — IV. The relations of the salts to the peristalsis of the gastro-intestinal canal, 313.
- MELTZER, S. J., and J. AUER. The action of ergot upon the stomach and intestines, 143.
- MENDEL, L. B., and H. C. BRADLEY. Experimental studies on the physiology of the molluscs, — third paper, 167.
- MENDEL, L. B., and F. P. UNDERHILL. Experiments on the physiological action and metabolism of anhydro-oxymethylene-diphosphoric acid (phytin acid), 75.
- Metabolism, affected by adrenalin, 42.
- in a case of biliary fistula, 362.
- METCALF, C. R. See PARKER and METCALF, 55.
- Molluscs, chemistry of, 167.
- Muscle, conduction and contraction in, 218.
- , irritability affected by osmotic pressure, 8.
- , heart, 1.
- , water rigor, 218.
- NERVE, theory of electric properties in, 297.
- OSBORNE, T. B., and S. H. CLAPP. The chemistry of the protein bodies of the wheat kernel. — Part III, 231.
- OSBORNE, T. B., and I. F. HARRIS. The chemistry of the protein bodies of the wheat kernel. — Part II, 223.
- Osteomalacia, 32.
- , metabolism in, 211.
- PARKER, G. H., and C. R. METCALF. The reactions of earthworms to salts: A study in protoplasmic stimulation as a basis of interpreting the sense of taste, 55.
- PATTEN, J. B., and P. G. STILES. On the influence of neutral salts upon the rate of salivary digestion, 26.
- PAWLOW operation for accessory stomach, improved, 321.
- Peristalsis, affected by magnesium salts, 313.
- , affected by saline purgatives, 15.
- , in ureter, 392.
- PETERS, A. W. Chemical studies on the cell and its medium. — Part I. Methods for the study of liquid culture media, 443.
- Phytin acid, physiological action, 75.
- PIKE, F. H. See GUTHRIE, PIKE, and STEWART, 344.
- Proteins of wheat kernel, 223, 231.
- Protozoa, methods of study, 443.
- Purgatives, action of, 15.
- RHEOTAXIS from optical stimuli in lobster, 326.
- SALANT, W. M. The effect of alcohol on the secretion of bile, 408.
- SHAFFER, P. Metabolism experiments upon a woman with a permanent biliary fistula, 362.
- SNYDER, C. D. The influence of temperature upon the rate of heart beat in the light of the law for chemical reaction velocity. — II., 350.
- SOLLMANN, T. Observations on human chyle, 487.
- Splanchnic, action on movements of stomach and intestine, 429.
- STEWART, G. N. See GUTHRIE, PIKE, and STEWART, 344.
- STILES, P. G. See PATTEN and STILES, 26.

Stimulation, chemical and electrical, 266.

Stomach, accessory, operation for, 321.

—, motor activities of, 429.

SUTHERLAND, W. A molecular theory of the electric properties of nerve, 297.

SUTHERLAND, W. The nature of chemical and electrical stimulation, 266.

TASTE, in *Allolobophora*, 55.

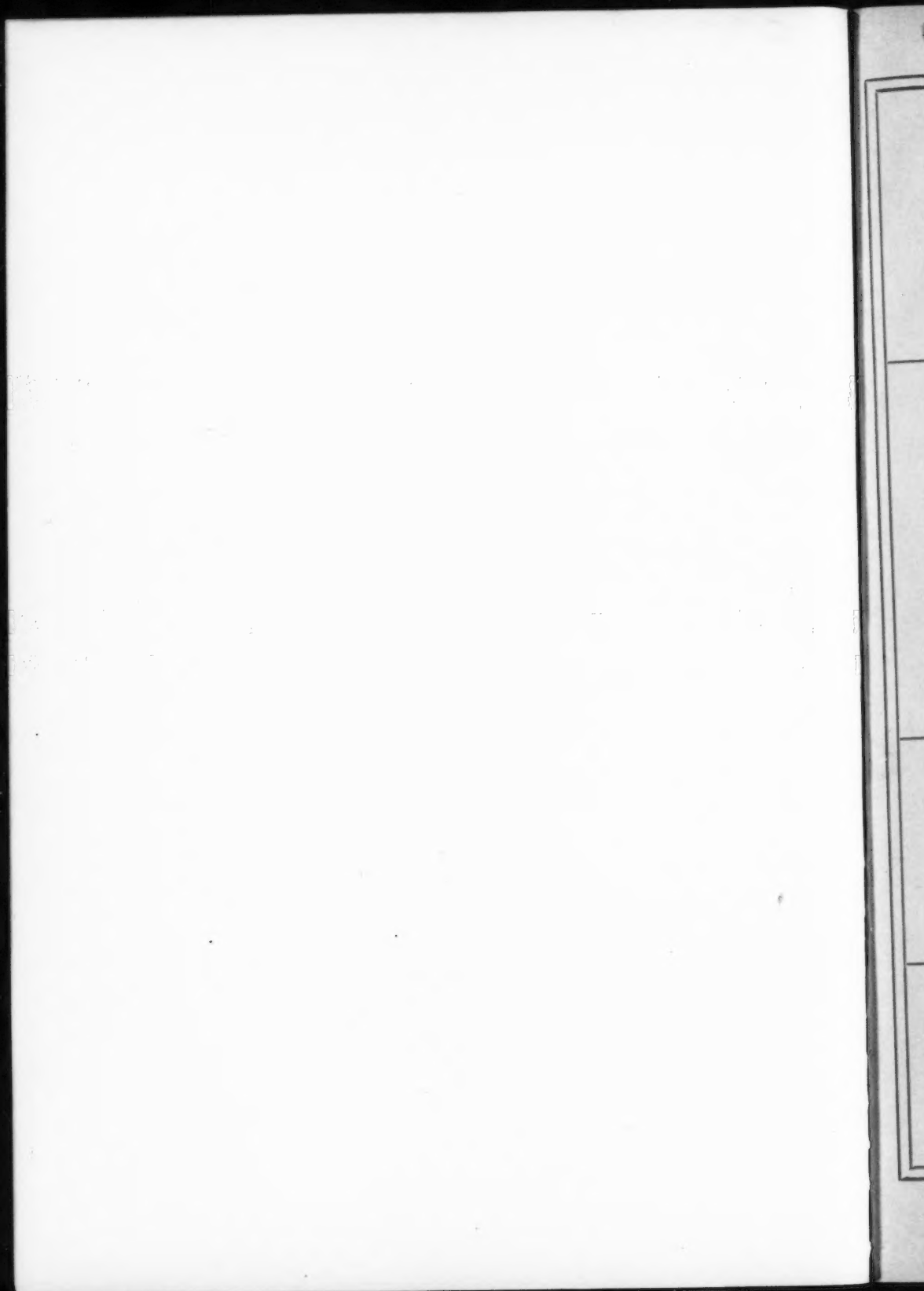
UNDERHILL, F. P. See MENDEL and UNDERHILL, 75.

UNDERHILL, F. P., and O. E. CLOSSON. Adrenalin glycosuria and the influence of adrenalin upon nitrogenous metabolism, 42.

Ureter, graphic record of peristalsis, 392.

VAGUS, action on movements of stomach and intestine, 429.

WHEAT kernel, proteins of, 223, 231.



5770

h

GENERAL LIBRARY,
UNIV. OF MICH.
JAN 5

THE AMERICAN
JOURNAL OF PHYSIOLOGY

EDITED FOR

The American Physiological Society

BY

H. P. BOWDITCH, M.D., BOSTON

R. H. CHITTENDEN, Ph.D., NEW HAVEN

W. H. HOWELL, M.D., BALTIMORE

FREDERIC S. LEE, Ph.D., NEW YORK

W. P. LOMBARD, M.D., ANN ARBOR

G. N. STEWART, M.D., CHICAGO

W. T. PORTER, M.D., BOSTON

VOL. XVII.—No. V.

Issued January 1, 1907

BOSTON, U.S.A.
GINN AND COMPANY

1907

CONTENTS

CHEMICAL STUDIES ON THE CELL AND ITS MEDIUM. — PART I.

METHODS FOR THE STUDY OF LIQUID CULTURE MEDIA. *By Amos*

W. Peters 443

THE RELATION OF THE NORMAL HEART RHYTHM TO THE ARTIFICIAL

RHYTHM PRODUCED BY SODIUM CHLORIDE. *By A. J. Carlson* . . 478

OBSERVATIONS ON HUMAN CHYLE. *By Torald Sollmann* 487

THE AMERICAN JOURNAL OF PHYSIOLOGY is issued monthly. Each volume will contain about five hundred pages. The price of one volume sent postage free to subscribers in the United States and Canada is five dollars; to subscribers in other countries, five dollars and twenty-five cents. The price of Volumes One, Two, and Three will be six dollars to domestic subscribers, and six dollars and twenty-five cents to foreign subscribers. All subscriptions are payable in advance.

Subscriptions, manuscript, and all other communications should be sent to Dr. W. T. PORTER, Box 127, Back Bay Post Office, Boston, Mass., U. S. A.

Contributors will receive fifty copies of their papers free; additional copies may be obtained at cost.

Copyright, 1906, by GINN & COMPANY.

Printed by John Wilson and Son, at The University Press, Cambridge, Mass.
Entered at the Boston, Mass., Post-Office as second-class mail matter, Feb. 11, 1903.

